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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,911	07/21/2005	Shizuo Kitahara	4670-0108PUS1	9550

2292 7590 10/10/2006

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EXAMINER
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TESKIN, FRED M

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/542,911

Applicant(s)

KITAHARA ET AL.

Examiner

Fred M. Teskin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 8-13 and 21-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-13 is/are allowed.
- 6) ☒ Claim(s) 8,9 and 21-33 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

The Amendment of July 17, 2006 having been entered, claims 8-13 and 21-33 are currently pending and under examination.

The prior art rejection over Sugiyama et al is withdrawn in view of the cancellation of claims 1-7 and 14-20 and the presentation of product-by-process claim 21, which incorporates through dependency the limitation of claim 8 or 11 as to polymerizing a conjugated diene monomer. In consequence, the claimed rubber necessarily contains recurring units (of conjugated diene monomer) chemically distinct from the monomer units of the polymer of Sugiyama et al.

The previously indicated allowability of claims 8 and 9 is withdrawn in view of a recently obtained translation of JP 57-145103. Rejections based on the translated document follow.

The Abstract of the Disclosure is objected to because it is not in single-paragraph format as per MPEP 608.01(b). Appropriate correction is required.

Claim 21 is objected to because of the following informalities: the term "processed" ["by the process"] appears incorrect (see line 1 and *cf.*, specification page 8, second full paragraph); replacement with "produced" or "prepared" is suggested. Appropriate correction is required.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 57-145103 ("JP '103") (all references thereto being to the corresponding English language translation furnished herewith).

JP '103 describes a method for manufacturing a cyclized polymer wherein a low molecular weight diene polymer (molecular weight of 10,000 – 150,000) is addition-reacted with maleic anhydride or a derivative thereof to provide a cyclized polymer suitable as coating materials, etc. (see page 3, bridging paragraph). The low molecular weight diene polymer is prepared by anionic polymerization using organolithium catalysts as specified at page 5, bridging paragraph, and the cyclizing reaction is performed using Friedel-Crafts catalysts as discussed on page 8. Polymerization of isoprene monomer using n-butyllithium catalyst, reaction of the resultant polymer with maleic anhydride, and cyclization of the reaction product using p-toluenesulfonic acid as catalyst is exemplified (page 14, Application Example 3).

Organolithium catalysts are species of "active metal catalyst" as per claim 8; and in view of applicants' definition of "polar group" (i.e., "*any* group that has *any atom* other than carbon and hydrogen"; see Specification, page 6), examiner considers the maleic anhydride used in specific embodiments of JP '103 to qualify as a "polar-group-containing compound" as claimed. In any event, performing the addition-reaction with maleic acid is proposed (page 6, second full sentence) and "carboxyl" is mentioned herein as a specific species of applicants' polar group.

As such, JP '103 is seen to describe the preparation of a polar-group-containing cyclized rubber by a process including the manipulative steps recited in claims 8 and 9.

Claims 21-33 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP '103.

As indicated above, JP '103 shows (e.g., Application Example 3) cyclized polymer obtained by a process meeting the terms of claim 8. A molecular weight of 58,000 is reported for the obtained polymer (see page 14, third full paragraph). This value is based on a different average (viscosity-based) than the weight-average molecular weight recited in claim 21. JP '103 does not mention weight-average molecular weight or the properties recited in claims 22-25; however, given the correspondence in procedural steps, there is a plausible basis for inferring that the cyclized polymer of at least the cited example will inherently possess the undisclosed properties of applicants' rubber as claimed.

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Where, as here, the claimed and prior art products are identical or substantially identical, or are *produced by identical or substantially identical processes*, a *prima facie* case of either anticipation or obviousness is established. *In re Best*, 195 USPQ 430, 433 (CCPA 1977). When there is sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not. *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Regarding claims 26 and 27, the use of a carboxyl group-containing compound to perform the addition reaction of JP '103 would have been obvious given the identification therein of maleic acid as a suitable maleic anhydride derivative, as noted in the preceding rejection.

Regarding claims 28-33, the utility of the cyclized rubber of JP '103 as a coating agent is generally taught, as is its compatibility with polyolefins and as an additive for natural and synthetic isoprene rubber (page 9, final full and bridging paragraphs).

Accordingly, the teachings of JP '103 are deemed sufficient to support a *prima facie* case of unpatentability as to claims 21-33.

Claim 10 is objected to as being dependent on a rejected base claim but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claim.

The previously indicated allowability of claims 11-13 is maintained.

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In view of the new grounds of rejection, this action is made non-final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FMTeskin/10-01-06

  
FRED TESKIN  
PRIMARY EXAMINER  
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